

they please, and the weight of the Vial full of water taken exactly at every time, and recorded, marking withall the degree of *Latitude*, and the day of the Month : And that as well of water near the Top ; as at a greater Depth.

*Some Observations concerning Jupiter. Of the shadow of one of his Satellites seen, by a Telescope passing over the Body of Jupiter.*

I have received an Account from very good hands, That on the 26<sup>th</sup>. of *September* last, at half hour after seven of the Clock, was seen, both in *Holland* and in *France* (by curious Observers, with very good Telescopes) the shadow of one of the *Satellites* of *Jupiter*, passing over his Body. One of those small Stars moving about his Body (which are therefore called his *Satellites*) coming between the Sun and it, made a small Eclipse, appearing in the Face of *Jupiter* as a little round black Spot. The Particulars of those Observations, when they shall come to our Hands, we may (if need be) make them publik : Which Observations, as they are in themselves very remarkable, and argue the Excellency of the Glasses by which they were discovered ; So are we, in part, beholding to *Monſieur Caſſini* for them, who giving notice before-hand of such Appearances to be expected, gave occasion to those Curious Observers to look for them.

*Of a permanent Spot in Jupiter : by which is manifested the conversion of Jupiter about his own Axis.*

Besides that Transient Shadow last mentioned, there hath been observed, by *Mr. Hook* first (as is mentioned in *Numb. I.* of these *Transact.*) and since by *M. Caſſini*, a permanent Spot in the Disque of *Jupiter*; by the help whereof, they have been able to observe, not onely that *Jupiter* turns about upon his own Axis, but also the Time of such conversion ; which he estimates

estimates to be, 9 hours and 56 minutes.

For as *Kepler* did before conjecture, from the motion of the Primitive Planets about the Sun as their Center, that the Sun moved about its own Axis, but could not prove it, till by *Galileo* and *Shiner* the Spots in the Sun were discovered ; so it hath been thought reasonable, from the Secondary Planets moving about *Jupiter*, that *Jupiter* is also moved about his Axis ; yet, till now, it hath not been evinced by Observation, That it doth so move ; much less, in what Period of Time. And the like reason there is to judge so of *Saturn*, because of the Secondary Planet discovered by Monsieur *Hu-gens de Zulichem* to move about it ; ( though such motion be not yet evinced from Observation : ) as well as that of the *Earth*, from its Attendant the *Moon*.

Whether the same may be also concluded of the other Planets, *Mars*, *Venus*, and *Mercury*, ( about whom have not yet been observed any Secondary Planets to move, ) is not so evident. Yet there may be somewhat of like probability in those. Not onely, because it is possible they may have Secondary Planets about them, though not yet discovered ; ( For, we know, it was long after those of *Jupiter*, before that about *Saturn* was discovered ; and who knows, what after times may discover about the rest ? ) But because the Primary Planets being all in like manner inlightned by the Sun , and ( in all likely hood ) moved by it ; it is likely that they be moved by the same Laws and Methods ; and therefore, turn'd about their own Axis, as it is manifest that some of them are.

But, as for the Secondary Planets , as well those about *Jupiter*, as that about *Saturn* ; it is most likely that they have no such Rotation upon their Axis. Not so much, because ; by reason of their smallness, no such thing hath been yet observed, ( or, indeed, could be, though it were true ; ) But because they being Analogical to our *Moon*, it is most likely that they are moved in like manner. Now, though it be  
true,

true, that there is some kind of *Libration* of the Moon's body, so that we have not precisely just the same part of it looking towards us; (as is evident by *Hevelius* observations, and others;) yet is there no Revolution upon its Axis; the same part of it, with very little alteration, always respecting us, as is to be seen in *Hevelius* his Treatise *de Motu Luna Libratorio*; and, indeed, by all those who have written particularly of the spots in the Moon; and is universally known to all that have with any curiosity viewed it with Telescopes.

*Of some Philosophical and curious Books, that are shortly to come abroad.*

1. Of the *Origine of Forms and Qualities*, deduced from *Mechanical Principles*; by the Honorable *Robert Boyle Esq.*

2. *Hydrostatical Paradoxes*, by the same Both in *English*.

3. A *Traët of the Origine of the Nile*, by Monsieur *Isaac Vossius*, opposed to that of Monsieur *de la Chambre*, who is maintaining, That *Niter* is the principal cause of the Inundation of that River.

4. A *Dissertation of Vipers*, by *Signor Redi*, an *Italian*.

5. A *Discourse of the Anatomy of a Lyon*, by the same.

6. Another, *De Figuris Salium*, by the same.

7 A *Narration of the Establishment of the Lyncei*, an *Italian Academy*, and of their Design and Statutes: the Prince *Cesè* being the Head of them, who did also intend to establish such Philosophical Societies in all parts of the World, and particularly in *Africa* and *America*, to be by that means well informed of what considerable productions of Nature were to be found in those parts. The Author yet *Anonymus*.

8. To these I shall add, a Book newly Printed in *Oxford* (and not yet dispersed) being, *A Catalogue of Fixed Stars with their Longitudes, Latitudes, and Magnitudes*, according to the Observations of *Uleg-Beig* (a King, and famous Astronomer, who was *Great-Grand-child* to the famous *Tamerlane*